Distribution Regularity of the Divalent Metal Chelate into Various Organic Solvent : Distribution of Beryllium Thenoyltrifluoroacetonate

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Abstract

The distribution ratios of a typical chelate of divalent metal ion, Be^{2+}, with TTA, between an aqueous perchlorate solutions (μ=0.1) and nearly 40 organic solvents including inert, ether, ester, ketone, and alcohol solvents were determined as a function of pA at 25°C. The extractable chelate was identified to be BeA_2 and no adduct formation with excess of uncomplexed free TTA or oxygen-containing solvent itself was observed. The distribution coefficient of the chelate (P_M) was compared with that of TTA (P_{HA}) and it is found that the relationship expressed by the following formula holds good in the present system also, $\log P_M = n \log P_{HA} +$ const. Accordingly, the distribution of the same chelate into another solvent or the distribution of the stimilar type of chelate into an organic solvent can be predicted.

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